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NOTES, NEWS AND REVIEWS

Professor Bruce Fink held a research scholarship at the Garden in December, 1914, and delivered a special address on lichen taxonomy before the Torrey Botanical Club.

Professor L. H. Pennington completed his studies of the temperate species of *Marasmius* at the Garden during the latter part of December.

Professor W. C. Coker has sent in a valuable collection of gill-fungi from Chapel Hill, North Carolina, containing a splendid representation of several difficult species.

Dr. Frederick D. Heald has been appointed professor of plant pathology and pathologist at the State College and Experiment Station, Pullman, Washington.

The American Journal of Botany for July, 1914, contains an article on the origin and development of the lamellae in *Coprinus micaceus*, by Dr. Michael Levine, which forms a valuable addition to the scanty literature of the morphology of the higher fungi.

In the Report of the Connecticut Agricultural Experiment Station for 1913, Dr. G. P. Clinton discusses rather fully the so-called chestnut blight poisoning and decides that the chestnuts eaten by the persons affected could have had no distinctive poisonous properties, but may have been imperfectly matured owing to the trees being attacked by the blight.

The life history and physiology of *Cylindrosporium* on stone fruits is ably treated in an article by B. B. Higgins in the *American Journal of Botany* for April, 1914. Dr. Higgins describes two species as new, *Coccomyces prunophorae* and *C. lutescens*, in addition to *C. hiemalis* previously described by him in *Science*.

Mr. F. J. Veihmeyer, in Bulletin 127 of the U. S. Department of Agriculture, discusses the Mycogone disease of mushrooms and its control. This disease has been known in Europe for at least three generations and has been very destructive to mushroom beds. It was reported in America only a few years ago and now threatens the mushroom industry in certain localities. Methods of prevention and control are discussed at length in this bulletin.

Plants of *Oenothera Tracyi* grown at the New York Botanical Garden during the past two years have had their leaves almost completely covered with mildew (*Erysiphe*), which gives them a decided grayish-white color. Plants of *O. grandiflora*, however, growing by the side of *O. Tracyi* seem to be completely immune from the attacks of this fungus and their foliage has remained bright-green throughout.

The *Strumella* disease of oak and chestnut trees is described and fully illustrated by F. D. Heald and R. A. Studhalter in Bulletin 10 of the Pennsylvania Department of Forestry. This disease very much resembles the chestnut canker and attacks not only chestnut but also various species of oak in the northeastern United States. The fungus, *Strumella coryneoidea* Sacc. & Wint., is an old species, but has not previously been considered parasitic in habit. The investigations in this bulletin have been confined to the state of Pennsylvania.

A very interesting list of wood-destroying fungi which grow on both deciduous and coniferous trees, by James R. Weir, appears in the August number of *Phytopathology*. These observations show that too much dependence must not be placed on the host as an aid in determining certain wood-loving species. One of the most striking instances recorded by the author is that of *Grifola Berkeleyi* attacking the roots of the larch in the Kaniksu National Forest of Idaho. This handsome species is known in the East only on oak.

The Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, Volume 17, Part 2, issued in October, 1914, contains several very important mycological contributions. Bernard O. Dodge contributes a list of fungi, chiefly saprophytes, from the region of Kewaunee County, Wisconsin, including 400 species from Kewaunee County and 40 additional species from Juneau and Dane Counties listed because of their special interest. About 90 species of discomycetes found in this same region were also listed by Dr. Dodge in another paper in the same publication. Both of Dr. Dodge's papers contain locality and descriptive notes of much interest and value. No new species are included. A provisional list of parasitic fungi found in Wisconsin, with a host index, is contributed by J. J. Davis. The list is a long one and does not admit of notes. Edward T. Harper makes another very important contribution to his studies of the larger gill-fungi occurring in the region of the Great Lakes by describing and illustrating very fully and accurately 13 species of *Hypholoma*, including some of the most difficult forms in the family.

Another important contribution to the literature of the chestnut canker recently appeared as Bulletin 347 of the Cornell University Agricultural Experiment Station by P. J. Anderson and W. H. Rankin. This is a very complete treatment of the subject and contains an account of many original investigations and experiments extending over a period of years. Regarding the outlook for the chestnut tree in America the authors make the following statement: "At present we know of nothing that will prevent the extermination of the American chestnut tree. Every measure of control that has been tried has been abandoned north of West Virginia and the Potomac River. Some persons have expressed the belief that nature herself will intervene to prevent destruction of the species; the virulence of the pathogen will abate, the resistance of the host will be increased, or natural enemies—insects or fungous parasites—will destroy, or at least check, the pathogen. Up to the present, however, there has been no indication of relief along any of these lines. But we do not believe that the ingenuity of our scientists has been exhausted; that further research will bring to light some methods of combating the disease is not beyond the limit of probability."

PHILADELPHIA MEETING OF THE PHYTOPATHOLOGICAL SOCIETY

The American Phytopathological Society held its sixth annual meeting in Philadelphia, December 29-January 1. Abstracts of the large number of interesting papers presented at this meeting have already appeared in *Phytopathology*, the official organ of the society. At the business meeting on January 1, the following officers were elected for the ensuing year: President, H. H. Whetzel; Vice-President, W. A. Orton; Secretary-Treasurer, C. L. Shear, Councilor, M. T. Cook.

The retiring president, Dr. Haven Metcalf, ran all the programs on schedule time, which permitted important discussions. He also showed wisdom in grouping papers on the same general subject. This method applied particularly well to the number of "spot diseases" on apple and other fruits, discussed by Waite, Brooks, Fisher, Reed, Martin, and others.

A plant disease survey is being organized by Mr. R. Kent Beattie, of the Bureau of Plant Industry at Washington, its object being to collect and classify all available data on the distribution of plant diseases in the United States. Plant pathologists are urged to send in specimens, which will be checked as to determination and placed in the herbarium for consultation.

Phytopathology, the official organ of the society, was discussed at length by Dr. Jones and others, who emphasized the fact that the time has come when articles of small scientific value cannot be accepted for publication and money must be obtained for good illustrations, either by contributions from the members or from an endowment. It was held to be the duty of American mycologists to see that American papers of merit are illustrated in the very best possible manner.

Special attention may be called at this time to the following papers:

Professor J. C. Arthur reported *Uredo nootkatensis* from Alaska and other parts of the Pacific Coast as a *Gymnosporangium* with repeating spores. The aecial stage of this species is *Aecidium Sorbi*.

Mr. George L. Peltier reported results of extensive experiments with *Rhizoctonia* in America, over 57 strains having been personally investigated. The common species is *Rhizoctonia Solani*.

Mr. E. W. Sinnott outlined a method for the microscopic study of decaying wood, which consisted in softening, imbedding in celloidin, and staining with methyl violet or other differential stain.

Mr. A. G. Johnson discussed the ascigerous stage of *Helminthosporium teres* Sacc. on barley, which was found to be a *Pleospora*. This perfect stage has been reported for *H. gramineum*, but there is no doubt that it is connected with *H. teres* instead.

A very interesting report was made by Dr. L. R. Jones on lightning injury to cotton and potato plants. This accounts for areas that have been observed where the plants died suddenly from no observable cause. One case was mentioned of lightning injury to corn in Kansas.

Mr. W. A. Orton spoke very briefly of the results of the potato study trip of 1914 and stated that no report of the trip as such would be published, but that the important observations and results would be put into available form at an early date. He is planning to have a meeting of those interested in the subject in Maine next August.

Mr. Harry M. Fitzpatrick reported results of his studies on *Eocronartium typhuloides*, a species intermediate between the Auriculariaceae and the higher basidiomycetes. He found it to be a true parasite on mosses. After examining authentic specimens from Europe, he has decided that *E. typhuloides* Atk., *Clavaria muscigena* P. Karst., and *Typhula muscicola* Fries are identical, the last mentioned name being the oldest.

A report by Dr. L. R. Jones on further experiments with fusarium-resistant cabbage proved very interesting. In 1910, the "yellows" was so bad in Wisconsin that most of the cabbages were killed. However, a few survived, which were selected as resistant strains. The process of selection has been continued since that time and Dr. Jones is now ready to distribute seed from these selected strains, which will yield remarkable results, the best yielding 95.5 per cent. of heads and 19 tons per acre, while the commercial strain from which the resistant strain was derived yielded only 17 per cent. of heads and a little over 2 tons per acre. It looks as though the disease produced by *Fusarium conglutinans* might be entirely eliminated by this process of selection.

Mr. W. M. Scott described and discussed a new fungicide which may replace lime-sulfur for spraying fruit trees. It is prepared by using barium instead of calcium in combination with sulfur, which permits the shipment of the fungicide in the dry state. This is much more convenient, while the price should be about the same and the results fully as beneficial. Lime-sulfur mixture is generally used now instead of Bordeaux for orchard work. The yellowish color is not objectionable to fruit trees but makes it impossible for parks. The new substance costs at present 4 cents a pound. The dry crystalline substance consists of 85 per cent. of barium tetrasulfid and a small percentage of barium thio-sulfate and free sulfur. When this crystalline substance is dissolved in cold water, preparatory to spraying, some of the free sulfur unites with the tetrasulfid, forming pentasulfid. It has been determined that it is the polysulfid of barium rather than the thiosulfate or free sulfur that is beneficial.

The last paper on the program was by Miss Caroline Rumbold, showing some effects on chestnut trees of the injection of chemicals. Tree injection is difficult because there is no blood in the tree to distribute the chemical, which is apt to go up and down in a restricted area. Openings were made on different sides of the tree trunks and fluids of various compositions and strength were injected through tubes clamped to the trunk. Analine stains were first used to determine the best methods of injection. No practical results with the chestnut canker were obtained, but it is hoped that some methods will be devised whereby valuable trees may be saved when attacked by diseases beneath the bark.

W. A. MURRILL.